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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/855,734

05/15/2001

David Chappaz

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10/01/2004

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EXAMINER

MUNOZ, GUILLERMO

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/855,734	Applicant(s) CHAPPAZ, DAVID	
	Examiner Guillermo Munoz	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15/05/2001.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 11-12, 14-19, 21-26, 28-33, 35-36 is/are rejected.
 7) ☒ Claim(s) 13, 20, 27 and 34 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/15/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-12, 14, 17-19, 21, 24-26, 28, 30-33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramesh et al. (US Patent 5,838,739).

Regarding claim 11, Ramesh et al. disclose Channel Estimator Circuitry which teach all the claimed subject matter “A process...the impulse responses of the sender and of the receiver” in claim 11 as follows. Ramesh et al. teach the initial estimation of the response of the combination of both a and c, where a is representative of the time varying channel and c_k is representative of the transmitter and receiver filters, note Col. 8, lines 23-27; the initial estimate of a is then adjusted to fit the model of a, c_k for different values of c_k . Furthermore, Ramesh et al. disclose storing the predetermined matrix $c_0 \dots c_k$ in memory modules 68-1...68-n, note Fig. 2.

Regarding claim 12, Ramesh et al. further teach the claimed subject matter “by a matrix whose coefficients are predetermined”, note Col. 8, lines 48-49.

Regarding claim 14, Ramesh et al. further teach the claimed subject matter, note Fig. 2, elements 68-1...68-n.

Regarding claim 17, Ramesh et al. further teach the claimed subject matter in Col. 3, lines 32-33.

Regarding claim 18, see claim 11.

Regarding claim 19, see claim 12.

Regarding claim 21, see claim 14.

Regarding claim 24, see claim 17.

Regarding claim 25, see claim 11.

Regarding claim 26, see claim 12.

Regarding claim 28, see claim 14.

Regarding claim 30, see claim 17.

Regarding claim 31, see claim 17.

Regarding claim 32, see claim 11.

Regarding claim 33, see claim 12.

Regarding claim 35, see claim 14.

Regarding claim 36, see claim 17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-16, 22-23, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh et al. in view of Gothe et al..

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Regarding claim 15, Ramesh et al. teach all the claimed subject matter in independent claim 11, however, fails to teach implementing the channel estimation circuitry in a digital signal processor.

Gothe et al. teach a Physical Channel Estimator for estimating the impulse response of a transmission channel, which is implemented within a digital signal processor, note Col. 3, line 22.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement Ramesh et al.'s channel estimation circuitry with Gothe et al.'s teaching of estimation performed by a processor, since Gothe et al. suggest in Col. 3, line 22 that it would be typical in the art.

Regarding claim 16, Gothe et al. further teach the claimed subject matter "via software" by the inherency of the operation of the processor, see claim 15.

Regarding claim 22, see claim 15.

Regarding claim 23, see claim 16.

Regarding claim 29, see claim 15.

Allowable Subject Matter

Claims 13, 20, 27, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 13, 20, 27, and 34 are considered allowable because the present invention comprises a blind estimation circuit for calculating a first estimate of the impulse response of a transmission

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channel defined by the impulse response of a sender, a receiver, and the physical channel between; and a circuit for correcting the first estimate based on the known impulse response of the sender and receiver units. The closest art, Ramesh et al. (US Patent 5,838,739) shows a similar circuit including a circuit for generating an impulse estimation of a transmission channel and adjusting the estimation based on the known sender and receiver impulse response. However, Ramesh et al. fails to teach the impulse estimation of the transmission channel being generated using blind estimation techniques. This distinct feature has been included in dependent claims 13, 20, 27, and 34 rendering them allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 571-272-3045. The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Guillermo Munoz

GM
September 27, 2004

Jean B. Corrielus
JEAN B. CORRIELUS
PRIMARY EXAMINER

9/29/04